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| 09/346,884 | 07/02/1999 | NIRAT BHUPESH SHAH | 14013-23 | 3005 |
| 20575 | 7590 | 01/30/2006 | EXAMINER | |
| MARGER JOHNSON & MCCOLLOM, P.C. 210 SW MORRISON STREET, SUITE 400 PORTLAND, OR 97204 | | | LY, ANH VU H | |
| | | | ART UNIT | PAPER NUMBER |
| | | | 2667 | |

DATE MAILED: 01/30/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | | |
|------------------------------|--------------------------------------|--|--|
| Office Action Summary | Application No. 09/346,884 | Applicant(s) SHAH, NIRAT BHUPESH | |
| | Examiner Anh-Vu H. Ly | Art Unit 2667 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 November 2005.
2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 1-20 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

1. This communication is in response to applicant's amendment filed November 23, 2005.

Claims 1-20 are pending.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-13 and 17-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Vargo et al (US Patent No. 6,356,545) in view of Bauer et al (US Pub No. 2001/0008556 A1) and further in view of Riddle (US Patent No. 6,175,856). Hereinafter, referred to as Vargo, Bauer, and Riddle.

With respect to claims 1 and 17, Vargo discloses a DSP module to receive an analog telephone signal and to convert the analog telephone signal to a digital signal and further to packetize the digital telephone signal for transmission to a remotely-located device (Fig. 1 illustrates an operation of the Internet telephone system. Therefore, placing a call over the Internet, first of all, the received analog signal from the call initiator must be digitized and packetized into packets, performed by a processor or DSP, before transmitting to the remotely located device).

Vargo does not disclose that the device and the remotely located device to negotiate a codec by simultaneously sending to each other one or more types of codecs that each supports and to select a mutually supported codec with a predetermined protocol. Riddle discloses in Figs. 5 and 6, that the sender/initiator and the receiver exchanging information regarding list of codecs that each can support and selecting a best codec from the list of exchanged codecs. Further, Riddle discloses in Figs. 1 and 2, a system for supporting teleconference between plurality of workstations and routers connecting different networks. Such system is implemented by a specific protocol therefore the step of exchanging information is also carried out by using such specific protocol. It would have been obvious to one having ordinary skill in the art at the time the invention was made to include the features of exchanging list of codecs between the sender and the receiver and selecting a best codec from the lists of exchanged codecs in Vargo's system, as suggested by Riddle, to maximize system's efficiency.

Vargo does not disclose that during communications between the remotely-located device and the DSP module, the DSP module to renegotiate the use of a second type of codec and switch to using the second codec upon detection of signal degradation and wherein the type of codec being utilized may be repeatedly, mutually, renegotiated to dynamically change compress techniques and switching between the codecs is performed during a call. Bauer discloses (page 2, 9th paragraph and page 3, paragraphs 27th to 30th) that the initiating device inserts a notification in a field of the packet header to inform the recipient device that subsequent packets will be encoded with a different specified algorithm, until further notice, to maximize network utilization. Thereafter, the recipient device can load the appropriate coded to properly decode the received packets. In a further variation, the notification of a coded change or the current

code can be repeatedly included in the packet header at periodic intervals, or repeated a predetermined number of times in successive packets.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to include the features of having the source and the destination, repeatedly, mutually, renegotiated for the new type of codec in response to the network conditions in Vargo's system, as suggested by Bauer, to accommodate QoS and effectively manage the bandwidth of a packet telephony system.

With respect to claims 2-4, Vargo, Riddle, and Bauer have addressed all the limitations as recited in the independent claim 1. Vargo does not disclose that wherein switching between the codes is initiated by a user of one of the telephone devices; a predetermined code is assigned to each codec, the user specifies the type of codec to be switched to by entering the predetermined code corresponding to a desired codec and predetermined code is programmably-alterable. However, switching initiated by a user and predetermined code are well known in the art such a TV remote controller, wherein a user can select different channels to view and wherein the remote controller can be programmed to store a number of channels with associated "hot keys". Wherein, each "hot key" is corresponded with a channel and a user can press that "hot key" to turn to that specific channel. User can re-program the remote controller to different "hot keys" associated with different channels at another time. It would have been obvious to one having ordinary skill in the art at the time the invention was made to include a method of user initiating and assigned predetermined code, which is re-programmable, for each codec in Vargo's system, to increase system's functionalities.

With respect to claims 5-8, Vargo discloses that the device to switch from a codec resulting in the use of larger packet sizes to a codec resulting in smaller packet sizes in response to detecting a lower available bandwidth on a packet switching network (col. 11, lines 18-22 discloses that voice port 61 responds to changing network conditions to maintain speech quality, it is possible to vary the size of the individual packets or to vary the bundling-of the packets by techniques that are well known in the art. This implies that larger sized packets are reduced to smaller sized packets when low in bandwidth and vice versa).

With respect to claim 9, Vargo discloses that remotely-located device detects the degradation in the quality of the voice information (the voice port adjusts by selecting the Voxware 2.9kbits/sec algorithm having somewhat lower sound quality, but with two level redundancy error correction after noticing dropped packets, herein, detecting the degradation in the quality of voice information, as disclosed in col. 10, lines 46-67 and Fig. 11a).

With respect to claim 10, Vargo discloses wherein the degradation in the quality of the voice information is due to loss of one or more packets (after noticing dropped packets, e.g., loss of one or more packets, the voice port adjusts by selecting the Voxware 2.9kbits/sec algorithm having somewhat lower sound quality, but with two level redundancy error correction, as disclosed in col. 10, lines 46-67 and Fig. 11a).

With respect to claim 11, Vargo discloses wherein a threshold defines the number of lost packets that are tolerated triggering a decision to switch to the second type of codec (after

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noticing dropped packets, the voice port adjusts by selecting the Voxware 2.9kbits/sec algorithm having somewhat lower sound quality, but with two level redundancy error correction, as disclosed in col. 10, lines 46-67 and Fig. 11a. Herein, the threshold defines the number of lost packets).

With respect to claim 12, Vargo discloses that wherein a plurality of packets form a message and each packet includes a sequence number indicative of the position of the packet with respect to other packets in the same message, the sequence numbers of the same message being in sequential order (a stream of voice data 200 includes a plurality of data packets numbered 1 through 10, where each packet further contains a plurality of data bytes indicated by the letters in Fig. 8a to 8d). Vargo discloses that wherein a loss of packets is detected when one or more sequence numbers are missing from the received packets of the same message (after noticing dropped packets, herein, packets are not received in sequential order, the voice port adjusts by selecting the Voxware 2.9kbits/sec algorithm having somewhat lower sound quality, but with two level redundancy error correction, as disclosed in col. 10, lines 46-67 and Fig. 11a).

With respect to claim 13, Vargo discloses that wherein the degradation in the quality of the voice information is due to an intolerable delay associated with the time for a packet to travel between the device and the remotely-located device (since Internet is built to transfer data packets rather than continuous streams of sound, there may be delays and losses and the voice port 61 responds to changing network conditions, as disclosed in col. 1, lines 40-43).

With respect to claim 18, Vargo discloses that the codec negotiation is performed pursuant to H.245 protocol (Fig. 1 discloses Internet telephone systems; wherein, H.245 protocol is known for exchanging signaling messages).

With respect to claim 19, Vargo discloses that the first type of codec utilizes a compression/decompression algorithm defined by any one of the standards: G.711, G.726, G.729, or G723.1 (assuming the voice port begins with the commercially available TrueSpeech codec algorithm, which encodes speech at 8.5kbits/sec and with no redundancy, as discloses in col. 10, lines 46-67 and Fig. 11a). Vargo discloses that second type of codec utilizes a compression/decompression algorithm defined by any one of the standards: G.711, G.726, G.729, or G723.1 (after noticing dropped packets, the voice port adjusts by selecting the Voxware 2.9kbits/sec algorithm having somewhat lower sound quality but with two level redundancy error correction, as disclosed in col. 10, lines 46-67 and Fig. 11a).

3. Claims 14-16 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schuster et al (US Patent No. 6,483,600) in view of Riddle (US Patent No. 6,175,856 B1) and in view of Bauer et al (US Pub No. 2001/0008556 A1) further in view of Blomfield-Brown (US Patent No. 5,625,678) and further in view of the admitted prior art disclosed in the specification on pages 1-4 and Fig.2.

With respect to claims 14-16, Schuster discloses a DSP module for carrying a telephone conversation through a packet switching network (internal architecture for the data network gateway 30 and 70 for use in a number of different types of applications such as Internet access,

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Internet telephony, facsimile transmissions, etc.... including telephone interfaces 34a-c, fax/voice modem 40a-c, and a data network interface 46 which contains software and hardware modules to perform call routing, modem configuration, and other features, as disclosed in col. 9, line 36-53 and Fig. 2). Schuster discloses that the DSP module responsive to analog fax signals from a first fax machine and to convert the analog fax signals to digital and to packetize the digital fax signals for transmission through the packet switching network, to the second fax machine (Fig. 1a discloses that a data network facsimile system for transmission digitized facsimile signals from facsimile device 20 to facsimile device 80 over the packet switching network).

Schuster does not disclose that the DSP module to negotiate a codec by simultaneously sending to another DSP module one or more types of codecs that each supports and selecting a mutually supported codec with a predetermined protocol. Riddle discloses (Figs. 5 and 6) that the sender/initiator and the receiver exchanging information regarding list of codecs that each can support and selecting a best codec from the list of exchanged codecs. Further, Figs. 1 and 2 disclose a system for supporting teleconference between plurality of workstations and routers connecting different networks. Such system is implemented by a specific protocol therefore the step of exchanging information is also carried out by using such specific protocol. It would have been obvious to one having ordinary skill in the art at the time the invention was made to include the features of exchanging list of codecs between the sender and the receiver and selecting a best codec from the lists of exchanged codecs in Schuster's system, as suggested by Riddle, to maximize system's efficiency.

Schuster does not disclose that the DSP module to switch between codecs based on statistics from the DSP module. Bauer discloses (page 2, 9th paragraph and page 3, paragraphs 27th to 30th) that the initiating device inserts a notification in a field of the packet header to inform the recipient device that subsequent packets will be encoded with a different specified algorithm (switching between codecs), until further notice, to maximize network utilization (statistics from the DSP module). Thereafter, the recipient device can load the appropriate coded to properly decode the received packets. In a further variation, the notification of a coded change or the current code can be repeatedly included in the packet header at periodic intervals, or repeated a predetermined number of times in successive packets.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to include the features of having the source and the destination, repeatedly, mutually, renegotiated for the new type of codec in response to the network conditions in Schuster's system, as suggested by Bauer, to accommodate QoS and effectively manage the bandwidth of a packet telephony system.

Schuster does not disclose wherein fax transmission may cause a temporary interruption to the telephone conversation thereby avoiding the need for telephone connection to be disconnected prior to the fax transmission. Blomfield-Brown discloses wherein fax transmission may cause a temporary interruption to the telephone conversation thereby avoiding the need for telephone connection to be disconnected prior to the fax transmission (col. 2, line 15-21 discloses that when a person wants to send data, fax transmission, to the other person on a call, the sending modem temporarily mutes the handset and sends a signal directing the receiving modem to switch to data mode. When the receiving modem receives the signal, it mutes the handset and

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prepares to receive data. After transferring the data, both modems unmute their handsets and normal conversation ensues). It would have been obvious to one having ordinary skill in the art at the time the invention was made to include the feature of temporary muting the telephone conversation, sending and receiving data while the conversation is on hold in Schuster's system, as suggested by Blomfield-Brown, to allow multiple applications such as voice and data running and sharing at the same time to increase the productivity and maximize the usage of such system.

Schuster does not disclose wherein frequency adjustments are made to compensate for differences in frequency between the fax transmission and the telephone signal. The admitted prior art discloses wherein frequency adjustments are made to compensate for differences in frequency between the fax transmission and the telephone signal (in fax transmissions, a codec loaded into the DSP followed by an "overlay". The "overlay" converts the rate of transmissions of fax signals to the appropriate speed necessary for transmission of fax information over IP, as disclosed in page 4, lines 1-5 and Fig. 2). It would have been obvious to one having ordinary skill in the art at the time the invention was made to include the overlay feature in Schuster's system, as suggested by the admitted prior art, to compensate for frequency differences in a network.

With respect to claim 20, Schuster discloses wherein the connections are established pursuant to the H.225 protocol (col. 5, line 6-35 discloses that H.225 protocol is used in communications).

Response to Arguments

4. Applicant's arguments filed November 23, 2005 have been fully considered but they are not persuasive.

Applicant argues in page 7 that Bauer does not disclose that during communications between the remotely located device and the DSP module, the DSP module is to renegotiate the use of a second type of codec and may switch to the second type of codec upon detection of signal degradation and wherein the type of codec being utilized may be repeatedly, mutually, renegotiated to dynamically change compression techniques and switching between the codecs is performed during the call.

Examiner respectfully disagrees. Bauer discloses that the initiating device (DSP module) inserts a notification in a field of the packet header to inform the recipient device (remotely located device) that subsequent packets (during a call) will be encoded with a different specified algorithm, until further notice, to maximize network utilization. Thereafter, the recipient device can load the appropriate coded to properly decode the received packets. In a further variation, the notification of a coded change or the current code can be repeatedly included in the packet header at periodic intervals, or repeated a predetermined number of times in successive packets (page 2, 9th paragraph and page 3, paragraphs 27th–30th). Therefore, Bauer discloses the claimed limitations.

Applicant argues in page 8 that Schuster does not disclose the newly added limitation “the DSP module to switch between codecs based on statistics from the DSP module” in independent claim 14. However, Bauer discloses that the DSP module to switch between codecs based on statistics from the DSP module as stated in rejections of independent claim 14.

Conclusion

5. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.


6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Anh-Vu H. Ly whose telephone number is 571-272-3175. The examiner can normally be reached on Monday-Friday 7:00am - 4:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chi Pham can be reached on 571-272-3179. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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